

REMARKS

Claims 1-52 currently remain in the application. Claims 23-52 are newly added claims.

Support for new claims 23-52 can be found generally throughout the specification. No new matter has been added. Because the amendment is submitted in the authorized revised format, the current requirement in 37 C.F.R. 1.121(c) to provide a clean version of the amended claim is believed waived.

I. Claims 1-22

Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,282,437 (Franck) and U.S. Patent No. 5,339,812 (Hardy) in view of U.S. Patent No. 6,368,331 (Front).

A. Franck and Front are not analogous prior art.

Applicant respectfully submits that claims 1-22 are allowable for at least the reason that Franck and Front are not relevant art for the purpose of a § 103 rejection. (See M.P.E.P. 2141.01(a)). Applicant's claimed invention pertains to methods and systems for determining a radiation dose distribution due to seeds. On the other hand, Franck and Front teach methods for tracking an instrument during a surgery. (Franck: Abstract, and Column 14, lines 23-41; Front: Abstract, and Column 7, line 42 to Column 8, line 18). As such, Franck and Front are not reasonably pertinent to the particular problem with which Applicant was concerned. For the foregoing reason, Applicant respectfully requests that the § 103 rejections be withdrawn.

B. The motivation to combine Franck, Front, and Hardy does not exist.

There is no motivation to combine Franck, Front, and Hardy. To establish a case of obviousness under 35 U.S.C. § 103, there must be some suggestion or motivation to combine the teaching of the references. (M.P.E.P. 706.02(j)). Furthermore, the fact that the references can be combined or modified is not sufficient to establish prima facie obviousness. (M.P.E.P. 2143.01).

According to the Office Action, Franck and Hardy were combined because they both disclose radiation treatment of the brain. However, the mere fact that Frank and Hardy disclose a common field of use, by itself, does not constitute a motivation to combine the reference. Rather, the prior art must suggest the *desirability* of the claimed invention. (M.P.E.P. 2143.01). Here, each of Franck, Front and Hardy is operable independent of the other, and none of the cited references contains any suggestion, express or implied, that they be combined, or that they be combined in the manner suggested in Applicant's application. To the extent that the Examiner disagrees, it is respectfully requested that the Examiner point to where that motivation can be found so that Applicant can address the basis for the Examiner's conclusion that the references are properly combinable. Furthermore, Franck and Front each describe a different system and method for tracking an instrument in a surgery. Because Franck and Front take mutually exclusive paths to reach different solutions to a similar problem, each teaches away from combining, and therefore cannot be legally combined.

C. Franck, Front and Hardy do not contain all the elements recited in claims 1 and 12

Aside from the fact that Franck, Front and Hardy are not analogous art, and there is no motivation to combine them, the combination of these references does not result in the apparatus and method recited in claims 1 and 12, respectively. Claims 1 and 12 each recite calculating in real time a radiation dose distribution within a selected volume specified with respect to a body-fixed coordinate system due to seeds which have been deposited by the injection device. Applicant respectfully submits that neither Franck, Front, Hardy nor their combination discloses or suggests such limitation.

Franck and Front each describe a method and a system for guiding a medical instrument towards a target during a surgery. Particularly, Franck describes a method for guiding an instrument, which includes attaching bone anchors to a body, attaching sensing devices to the bone anchors, positioning the instrument having a tracking marker in a field of view of the sensing devices, and determining a location of the instrument based on signal provided by the sensing devices. (Abstract; Column 3, line 55 to Column 4, line 34; and Figure 1). Front describes a guiding device 100 having an indicator 126 associated with an instrument 120, and is operable to determine a position of a location on the instrument relative to a patient's body. (Abstract; Column 8, lines 36-56; and Figure 4). There is nothing in Franck, Front or their combination that discloses or suggests determining in real-time a radiation dose due to deposited or actual seeds.

Hardy fails to make up the deficiency present in Franck and Front. Hardy describes a system for determining a treatment plan using computer graphics *simulation* techniques and computerized numerical optimization. Particularly, the system of Hardy calculates a radiation dose distribution for a given *hypothetical* seed locations, and performs an optimization function to determine an optimal seed placement. (Abstract; Column 3, lines

38-49; Column 7, line 31 to Column 8, line 50; and Column 9, lines 6-19). A treatment planner can adjust variables during the optimization process (in real-time) and re-start the optimization process until a desired treatment plan is determined. (Column 12, lines 58-66). There is nothing in Hardy that discloses or suggests determining a radiation dose distribution due to *deposited* seeds. Rather, because Hardy teaches determining an optimal seed placement based on *simulation*, it in fact teaches away from determining radiation dose distribution based on actual seeds.

Since neither Franck, Front nor Hardy discloses or suggests the elements recited in claims 1 and 12, they cannot be combined to form the respective resulting structure and method in these claims. As such, claims 1 and 12 are believed allowable over the cited references for this additional reason.

Based on any or all of the foregoing reasons, claims 1 and 12 are believed allowable over Franck, Front, Hardy and their combination. For at least the same reasons that claims 1 and 12 are allowable, claims 2-11, which depend from claim 1, and claims 13-22, which depend from claim 12, are also believed allowable over the cited references.

II. New claims 23-52

Because new independent claims 23, 32 and 41 each recite a similar limitation as that discussed with reference to claims 1 and 12, for at least the same reasons that claims 1 and 12 are believed allowable, claims 23, 32 and 41, and their respective dependent claims 24-31, 33-40 and 42-52 are also believed allowable over Franck, Front and Hardy. Applicant further submits that claims 32 and 41 each further recite determining a body-fixed coordinate system based on markers within a patient's body. Neither Franck, Front, Hardy nor their

combination discloses or suggests such limitation. Therefore, for this additional reason, new claims 32 and 41 and their dependent claims are believed allowable over the cited references.

CONCLUSION

Based on the foregoing, all remaining claims are believed allowable and a Notice of Allowance is respectfully requested. If the Examiner has any questions or comments regarding this amendment, please contact the undersigned at the below-listed number.

Respectfully submitted,



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